England's Two Agricultural Revolutions

Enclosure and the Yeoman: The Agricultural Development of the South Midlands, 1450-1850. **By Robert C. Allen. Oxford: Clarendon Press, 1992. Pp. xiv, 376. $79.00.**

No one would deny that the enclosure of English open fields sharply raised the productivity of economic historians. The causes and consequences of the enclosure movement has been one of the most hotly debated topics in English economic history during this century. In the last two decades Donald McCloskey, Michael Turner, J. A. Yelling, Carl Dahlman, and others have greatly extended our understanding of the open-field system and the enclosure movement.[1] By the early 1980s a rough consensus had been reached concerning the effect of enclosures. Although historians generally agreed that the open-field system was far more adaptable to new crop rotations than was once believed, almost all concurred that the enclosure movement begun in the 1760s resulted in significant increases in agricultural productivity. Perhaps the most optimistic assessment of the effects of enclosure was offered by Michael Turner, who concluded that grain yields in 1801 were 20 to 25 percent higher in enclosed parishes than in open-field parishes. Enclosures further increased total agricultural output by bringing marginal land into regular cultivation, by eliminating or reducing the size of annual fallows, and by bringing about changes in land use.[2] Donald McCloskey reached a somewhat less optimistic conclusion from his comparison of late-eighteenth-century rents on enclosed and open-field land. McCloskey argued that the typical increase in rents of 50 to 100 percent after enclosure implied that enclosure raised productivity by 10 to 13 percent.[3] Turner, McCloskey, and most other historians of enclosure relied to a greater or lesser degree on evidence presented by contemporary analysts of enclosures, most notably Arthur Young and the other authors of the county reports published by the Board of Agriculture between 1793 and 1815.

Now Robert Allen, in his outstanding and very important *Enclosure and the Yeoman*, has masterfully used farm- and parish-level data collected by Young, T. Batchelor, R. Parkinson, and other contemporaries to reach a more pessimistic view of the consequences of enclosures.[4] Allen calls the traditional view—that enclosures significantly increased agricultural productivity and thereby aided industrialization—Agrarian Fun-

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[1] Important works by these authors include but are not limited to the following: Donald N. McCloskey, "The Enclosure of Open Fields: Preface to a Study of Its Impact on the Efficiency of English Agriculture in the Eighteenth Century," this JOURNAL, 32 (Mar. 1972), pp. 15-35; McCloskey, "The Economics of Enclosure: A Market Analysis," in Eric Jones and William Parker, eds., *European Peasants and their Markets* (Princeton, 1975); McCloskey, "The Open Fields of England: Rent, Risk, and the Rate of Interest, 1300-1815," in David Galenson, ed., *Markets in History* (Cambridge, 1989); Michael E. Turner, *English Parliamentary Enclosure* (Folkestone, 1980); Turner, "Agricultural Productivity in England in the Eighteenth Century: Evidence from Crop Yields," *Economic History Review*, 2nd ser., 35 (Nov. 1982), pp. 489-510; Turner, "English Open Fields and Enclosures: Retardation or Productivity Improvements," this JOURNAL, 46 (Sept. 1986), pp. 669-692; J. A. Yelling, *Common Field and Enclosure in England, 1450-1850* (London, 1977); and Carl Dahlman, *The Open Field System and Beyond* (Cambridge, 1980).

[2] Turner, "Agricultural Productivity," pp. 498-99, 505.

[3] McCloskey, "The Open Fields of England," pp. 21-24.

[4] Allen's major data sources include the following: T. Batchelor,, *General View of the Agriculture of the County of Bedford* (London, 1808); R. Parkinson, *A General View of the Agriculture of the County of Rutland* (London, 1808); Parkinson, *A General View of the Agriculture of the County of Huntingdon* (London, 1811); Arthur Young, *A Six Weeks' Tour Through the Southern Counties of England and Wales* (London, 1769); Young, *A Six Months' Tour Through the North of England* (London, 1771); and Young, *The Farmer's Tour Through the East of England* (London, 1771).

damentalism. He divides the "fundamentalists" into two groups—Tories and Marxists. Tory fundamentalists believe that enclosures and the growth in farm size "maintained or increased farm employment while increasing production even more; the result was a rise in both yields and labour productivity" (p. 4). Marxist fundamentalists believe that enclosures and large farms increased agricultural output but reduced farm employment. Allen maintains that both schools of Agrarian Fundamentalism are largely wrong, the Tories more so than the Marxists.

Allen focuses on the south Midlands (the counties of Bedford, Berkshire, Buckingham, Cambridge, Huntingdon, Leicester, Northampton, Rutland, and Warwick), the region that "has been at the centre of all enclosure controversies" (p. 13). The book is divided into five parts. Part I presents a chronology of enclosure in the south Midlands from the Tudor period through the nineteenth century, and examines the rise of yeoman farmers in the sixteenth and seventeenth centuries and their decline in the eighteenth. Allen maintains that the rise of the yeoman was a result of judicial rulings in the fifteenth and sixteenth centuries that consolidated peasants' property rights in open-field villages. The disappearance of the yeoman was not caused by parliamentary enclosure, as John and Barbara Hammond maintained, but rather by the financial innovation of the modern mortgage in the late seventeenth century, which enabled landlords to buy freeholds and run out copyholds and beneficial leases, thereby amalgamating their land into large farms.

Parts II through IV examine the effects of enclosure and capitalist agriculture on productivity growth, and the relationship between agrarian change and industrialization. They constitute the heart of the book and will be discussed at length here. Finally, Allen explores the distributional effects of the agricultural revolution in Part V, arguing that landlords were the only group to benefit from it. Real rent per acre increased sevenfold from 1450 to 1825, whereas real wages fell sharply and the real return to farm capital "fluctuated within narrow limits" (p. 285). He concludes by arguing that agricultural output would have been larger and rural poverty lessened in the eighteenth century if England had preserved and expanded the yeoman system of production through a government-sponsored program of land reform that prevented enclosures and set an upper limit to the size of landholdings. Indeed, "most English men and women would have been better off had the landlords' revolution [of the eighteenth century] never occurred" (p. 21).

The book's title does not do justice to its contents; it concerns much more than enclosure and the yeoman. Allen has written a major interpretive analysis of four centuries of English agricultural development. He offers important insights into the causes of the rise of yeomen in the late sixteenth century and their decline in the eighteenth century; the time path of productivity growth in agriculture; the effect of new crops and methods on yields and output; the role of large farms in agricultural development; the emergence of the surplus labor economy; and the effect of agricultural development on the Industrial Revolution. Throughout Allen compares what he calls England's two agricultural revolutions: the yeomen's of the seventeenth century and the landlords' of the eighteenth. The yeomen's agricultural revolution led to a doubling of grain yields and a significant increase in national income, and its benefits were distributed widely among the population. The landlords' revolution, which consisted mainly of enclosure and farm amalgamation, did not increase output and contributed little to economic growth. Productivity increases were achieved by releasing labor, but the labor released from agriculture was not subsequently employed by the manufacturing sector. As a result, "the south midlands became glutted with surplus labour" (p. 237). Large landowners were the only beneficiaries of the landlords' revolution.

The book's most important contribution is its analysis of the roles played by enclosures and large farms in the growth of agricultural productivity from 1500 to 1800. Allen divides the south Midlands into three natural districts—heavy arable, light arable,

and pasture—and examines the consequences of enclosures and increasing farm size in each one. In Chapters 6 through 9 he examines the effect of enclosures on the adoption of modern farming methods, yields, agricultural output, farm employment, labor productivity, rents, and total factor productivity. To determine the effect of enclosures on farming methods, Allen compares land use patterns on open and enclosed farms in each natural district, using parish-level data contained in Parkinson's reports to the Board of Agriculture on Rutland and Huntingdon. He concludes that, in each district, enclosed farms were far more likely to have adopted modern methods than open-field farms. For example, the four-course Norfolk rotation was far more prevalent in enclosed villages than in open-field villages in the light arable district. The "backwardness [of open-field farmers] was true of all the advances individually, and was even more pronounced when the modern methods comprised a system" (p. 129).

So far Allen sounds like an Agrarian Fundamentalist, but the tone of the book changes sharply when he turns to the effect of enclosures on grain yields and agricultural output. He maintains that Turner's estimates of the effect of enclosure on grain yields are unreliable because of his failure to control for the effect of soil type on yields. Allen compares grain yields in open and enclosed villages around 1800 in each natural district and concludes that enclosure raised yields by only 5.6 to 13.7 percent.[5] What is more important, open-field farms accomplished 76 to 89 percent of the increase in yields over medieval levels realized by enclosed farms. In other words, "enclosure played a very small role" in the doubling of grain yields from 1400 to 1800 (p. 135). Enclosures may have accelerated the adoption of new farming methods, but the only new technique that significantly increased yields was hollow draining on heavy arable land; "neither more legumes, nor more cattle, nor exotic fertilizers" raised grain yields (pp. 137-38). Allen estimates the effect of enclosures on total farm output by calculating the value of production of 12 crops and animal products for open and enclosed farms of equal size, using data obtained from county reports to the Board of Agriculture. He finds that enclosure increased farm revenue per acre by 12 percent in the heavy arable district but reduced revenue by 5 percent in the light arable district and frequently reduced it in the pasture district as well. Thus, the Agrarian Fundamentalists' claim that enclosures increased output holds only for the heavy arable district, by far the smallest natural district in the south Midlands.

Allen next examines the effect of enclosures on employment and labor productivity. He constructs a cost-accounting model of farm employment, again using data obtained from Batchelor's and Parkinson's county reports to the Board of Agriculture, and compares total labor costs on open and enclosed farms. Enclosures increased employment per acre by 1 percent in the heavy arable district but reduced employment in both the light arable and pasture districts. Allen concludes that "enclosing land that was cropped as fallow-wheat-beans and planting it with a Norfolk rotation reduced direct labour costs" (p. 158). This differs sharply from C. Peter Timmer's finding that the adoption of a Norfolk rotation increased farm employment by 45 percent.[6] Timmer's results, according to Allen, are driven by his "peculiar" assumption that enclosure led to a conversion of pasture to arable, which did not occur in the south Midlands.[7] Allen admits that the process of enclosing created a short-term employment effect—newly enclosed farms required hedging and ditching—but stresses that those jobs were

[5] Table 7-2 (p. 136) reports that enclosure raised yields in the heavy arable district by 14.7 percent, but this appears to be a typographical error. The correct value is 13.7 percent.

[6] C. Peter Timmer, "The Turnip, the New Husbandry, and the English Agricultural Revolution," *Quarterly Journal of Economics*, 83 (Aug. 1969), pp. 375-95.

[7] To be fair to Timmer, his analysis was concerned with the eastern county of Norfolk, not the south Midlands. Evidence discussed later supports Timmer's contention that in the east enclosures led to an increase in grain acreage and employment.

completed within five or ten years of enclosure. On average, enclosure raised labor productivity by less than 10 percent.

Like the Agrarian Fundamentalists, Allen finds that rents increased, sometimes quite sharply, when land was enclosed. McCloskey has argued that the increase in rent represents a lower-bound estimate "of the increase in the value of output, resulting from enclosure/'[8] Allen disagrees, arguing that the increase in rent could have been caused by either an increase in farm efficiency or a redistribution of income from farmers to landlords. He tests whether increases in rent represented increases in efficiency by comparing the rise in rent with the rise in "Ricardian surplus" (revenue minus labor and capital costs) at enclosure, for villages in Rutland and Huntingdon surveyed by Parkinson in 1806. McCloskey was correct about the heavy arable district: efficiency gains did account for the rise in rent. However, in the light arable district and most of the pasture district, the rent increase was much larger than the increase in Ricardian surplus. In both districts, therefore, a large share of the rent increase represented a transfer of income from farmers to landlords. Allen reaches a similar conclusion—that enclosures mainly redistributed existing income—using farm level data collected by Arthur Young in the 1760s. How was this redistribution of income possible? The answer, according to Allen, is that rents were below equilibrium levels on open-field farms. In equilibrium, farmers' surplus (Ricardian surplus minus rent and taxes) should be equal to zero. However, Young's data suggest that farmers' surplus was positive for open-field farms and close to zero for enclosed farms. It would appear that landlords used enclosures to raise rents to their equilibrium level.[9]

If enclosures did not cause the increase in agricultural efficiency from 1500 to 1800, perhaps the replacement of small owner-occupied farms with large-scale capitalist farms did. In a series of regressions using farm-level data collected by Arthur Young and probate inventories from Oxford, Allen shows that capital per acre declined with farm size, and that farm size did not have a significant effect on either crop mix or crop yields. In other words, the revolution in grain yields required neither enclosures nor large farms. It was accomplished by yeoman farmers under the open-field system.

Ricardian surplus per acre increased with farm size, peaking at about 200 acres. However, the advantage of large farms lay not in greater output but in lower costs—in particular, lower labor costs. Employment per acre declined with farm size on both arable and pasture farms. The decline occurred for all categories of labor, but it was especially pronounced for women and boys. The landlords' agricultural revolution thus increased labor productivity by shedding labor.

The enclosure movement and the rise of large-scale farms created a serious surplus labor problem in the south Midlands by 1815. The landlords' revolution not only caused a reduction in farm employment but also was largely to blame for the rise in birth rates and the decline in outmigration from the region that occurred in the eighteenth century. Birth rates increased because the proletarianization of the rural labor force led to a fall in the age at marriage. Outmigration declined because the landlords' revolution reduced the income and wealth of the bulk of the rural population, limiting their ability to migrate. The slow growth in nonagricultural labor demand could not absorb the increased labor supply; the result was immiseration. In Allen's words, "the agricultural revolution came too soon. It preceded the region's industrial revolution by at least a century. Instead of contributing to the growth of manufacturing, the premature release of labour from agriculture caused nothing but poverty" (p. 262).

The analysis presented in Parts II through IV is a tour de force. Allen has done a most impressive job of marshaling the information contained in Arthur Young's *Tours* and in

[8] McCloskey, "The Enclosure of Open Fields," p. 33.

[9] This argument was first put forward by Allen in his "The Efficiency and Distributional Consequences of Eighteenth Century Enclosures," *Economic Journal*, 92 (Dec. 1982), pp. 937-53.

the county reports to the Board of Agriculture and using it in sophisticated ways to frame and test hypotheses. His results suggest that the currently dominant view of the effects of enclosures is largely incorrect. The book undoubtedly will lead most economic historians to rewrite their lectures on enclosures; however, before tearing up our old lecture notes, we should examine some aspects of it in more detail.

The place to begin is with the data. Most of Allen's results are obtained from cross-sectional comparisons of open and enclosed farms or villages at one point in time. There are methodological difficulties inherent in cross-sectional analyses. To obtain an unbiased measure of the effect of enclosure on, say, productivity, one needs to control for all other variables that might affect both productivity and the probability of enclosure. Allen understands the potential problem, and he reduces it by dividing the south Midlands into three "natural districts." However, there must have been significant differences in soil, elevation, and climate *within* each natural district as well. Allen is unable to control for such differences, and therefore his cross-sectional results might be biased. A Chicago school economist would point to a second potential problem with cross-sectional comparisons. In a competitive market one would not expect to find significant differences in productivity across farms or villages at any point in time. In the words of Donald McCloskey, "the open fields that survived must have been especially suited to openness. To put it another way, the sample is self-selected: Places do not become enclosed by accident."[10] The only way to get around these problems is to compare productivity in the same parishes before and after enclosure; in economists' terminology, to create a panel and estimate a fixed-effects model. Of course, this is easier said than done, but the county reports must contain some evidence on the effects of enclosure within individual parishes.[11]

Although Allen has amassed a formidable amount of data to test his hypotheses, at times he makes strong assertions based on little evidence. In Chapter 9 he maintains that in the late eighteenth century rents were below equilibrium levels on open-field farms but near equilibrium levels on enclosed farms. It follows that "the major economic consequence of the enclosure of open field arable in the eighteenth century was to redistribute the existing agricultural income . . . it was this redistribution of income that made the mid-eighteenth-century enclosures profitable to landlords" (p. 181). Why did competition fail to equate rents with surpluses in the open fields? According to Allen, rents were set by convention and experience rather than by competition. Farmers were not mobile, so market forces did not operate to drive rents toward equilibrium levels. Moreover, neither farmers nor landlords could do the accounting necessary to properly value land. Though Allen's story is plausible, it has problems. He maintains that "in the eighteenth century open field land was often let at 10s. per acre and enclosed land at 20s.—not because of close calculations but as rules of thumb" (p. 185). Why did convention set enclosed rents twice as high as open-field rents? Presumably because experience indicated that enclosures increased farm revenue by enough to justify a doubling of rent. Allen's calculations suggest that in the late 1760s the conventional rent on enclosed land was near its equilibrium level but that on open-field land significantly below its equilibrium level. He does not explain why convention was so much better at setting rents on enclosed land than on open-field land. Did landlords learn how to properly value land only upon its enclosure?

Allen maintains that "the gap between rent and surplus in open field farms" occurred only in the short run, "which may have lasted a generation"; in the long run the land market was in equilibrium (p. 181). He does not discuss the causes of these periodic short-run gaps between rent and surplus. Presumably they were a result of sharp

[10] McCloskey, "The Open Fields of England," pp. 20-21.

[11] Evidence on the increases in rents immediately after enclosure in several villages is given in McCloskey, "The Open Fields of England," p. 17.

increases in the real price of farm products. That is, open-field rents responded relatively slowly to unanticipated changes in prices. However, the time series data in his Table 9.1 (p. 172) suggest that open-field rents responded to market forces nearly as quickly as enclosed rents. From 1750/74 to 1800/24, enclosed rents in the pasture and light arable districts of the south Midlands increased by 89 and 80 percent, whereas open-field rents in the two districts increased by 75 and 74 percent. Allen finds that the gap between rent and surplus on open-field farms had disappeared by 1806. He offers no explanation for the surprising result that open-field rents were in equilibrium during the inflation of the French war years but out of equilibrium in the late 1760s. Moreover, if the open-field land market was in equilibrium in 1806, what does that imply about the causes of the enormous wave of enclosures at the time? In sum, Allen's discussion of how rents were set on open and enclosed farms raises as many questions as it answers.[12] This is unfortunate, because his conclusion that a large share of the rent increase associated with enclosures represented a transfer of income from farmers to landlords holds only if rents were below equilibrium levels on open-field farms.

My second example concerns the causes of the increase in grain yields between 1400 and 1800. Allen presents a wealth of cross-sectional evidence to show that enclosures increased grain yields by slightly less than 10 percent, on average. His conclusion that farm size had no effect on yields is based on much weaker evidence: probate inventories for 28 and 35 Oxfordshire farms in the case of wheat and barley yields, respectively.[13] The inventories were prepared between 1550 and 1727, before the eighteenth-century increase in farm size. Allen regresses yields on livestock density, share of cropped land planted with pulses, farm size, and year cubed. His explanation for including year cubed is indefensible: "year cubed was more significant than year to the first or second power" (p. 204). The regressions suggest that farm size did not have a significant effect on yields. Rather, the major determinant of yields is the time trend. Allen uses the regression results to predict wheat and barley yields in Oxfordshire over 50-year intervals from 1550 to 1700. The predictions suggest that wheat yields were as high in 1700 as in 1800, and that half of the increase in barley yields from 1550 to 1800 had occurred by 1700. Allen concludes that "the yeoman farming system of seventeenth-century England produced a revolution in corn yields" (p. 208). This is a strong conclusion, based on a very small amount of data for one county and a poorly specified regression.

If enclosures and farm size didn't cause the increase in yields, what did? Allen maintains that improvements in seed were largely responsible, but he offers only a small amount of qualitative evidence to support his conjecture. He concludes that the increase in yields was a result of "the unique institutional feature of the sixteenth and seventeenth centuries . . . security of tenure," which gave the yeoman "a long-term interest in the soil" (p. 208). Was security of tenure a necessary condition for the adoption of better seeds? Allen does not say. In sum, though he offers fairly convincing evidence that enclosures were not the major cause of the revolution in grain yields from 1400 to 1800, Allen's alternative explanation is based on weak evidence and is not convincing. The increase in yields remains a mystery.

In Chapter 12, on the origins of the surplus labor economy, Allen relies very heavily on assertions. His conclusion that enclosures and the rise of large farms created a serious surplus labor problem in the south Midlands by 1815 is based on three assumptions that, in my opinion, are incorrect. First, he assumes that there was no

[12] Once again, this is largely due to the fact that Allen's results are obtained from an analysis of cross-sectional data. He does not present any evidence of the effect of enclosures on rents and farmers' surplus in individual farms or villages. It is therefore not possible to determine how often open-field farms let at below-equilibrium levels had their rents raised to equilibrium levels upon enclosure.

[13] Allen's full sample contains 90 probate inventories. He does not state why the regressions contain so few observations.

surplus labor in the late seventeenth century: "In 1676 . . . there were so few men [employed in agriculture] that all must have been fully employed throughout the year" (p. 250). Allen offers no evidence to support this statement, and it is almost certainly wrong. According to D. C. Coleman, Stuart England suffered "a persistent tendency towards chronic under-employment," and Peter Mathias contends that "much of the [poverty] problem in seventeenth-century England came from underemployment."[14] The major cause of underemployment was the seasonality of agriculture. The financier John Law, writing in 1705, maintained that agricultural workers employed at grain production and pasturage "were idle one half of their time."[15] Allen implies that because "there were not enough men in agriculture to harvest the crops" there was no underemployment in winter. But women, children, and Irish migrant workers also participated in the grain harvest in the early nineteenth century, a time when Allen claims the rural economy was plagued with surplus labor. Further evidence suggesting that England had a surplus labor problem in the seventeenth century is the fact that during the century approximately 700,000 individuals emigrated from England.[16] In sum, enclosures and the rise of large farms did not create the surplus labor problem; it already existed.

Of course the landlords' agricultural revolution, to the extent that it shed labor, increased the pool of surplus labor. In addition, Allen claims, it increased surplus labor in two other ways: it led to an increase in birth rates and to a decline in migration. He provides little evidence to support either assertion, however. The increase in birth rates, according to Allen, was the result of a decline in the age at marriage caused by the proletarianization of the rural work force. Fertility increased sharply despite the fact that real wages were declining and unemployment was increasing. Few demographic historians would accept this conclusion. Jack Goldstone has argued—convincingly, in my opinion—that "what is important is not proletarianization *per se,* but the ability of the economy to provide work for proletarians. . . . Only when proletarianization was associated with stable employment did it lead to earlier marriage, and raise fertility."[17] Allen can't have it both ways; enclosures and large farms can't both immiserate workers and increase birth rates. Either enclosures raised birth rates by creating employment, or birth rates rose for reasons that had little to do with enclosures, such as the expansion of employment in protoindustry or changes in the administration of poor relief.[18]

[14] D. C. Coleman, "Labour in the English Economy of the Seventeenth Century," *Economic History Review,* 2nd ser., 8 (Apr. 1956), pp. 280-95; and Peter Mathias, *The First Industrial Nation* (London, 1969), p. 27.

[15] Quoted in Coleman, "Labour in the English Economy," p. 289.

[16] E. A. Wrigley and R. S. Schofield, *The Population History of England, 1541-1871* (Cambridge, MA, 1981), pp. 219-28. Wrigley and Schofield's estimates indicate that the net emigration rate per 1,000 of total population was higher in the seventeenth century than in the late eighteenth or early nineteenth centuries. David Levine contends that as many as 850,000 emigrants left England between 1630 and 1699. See Levine, *Reproducing Families* (Cambridge, 1987), p. 82. Using a different methodology, Henry Gemery estimated that between 1630 and 1700 approximately 375,000 individuals emigrated from Britain to her North American colonies. See Gemery, "Emigration from the British Isles to the New World, 1630-1700: Inferences from Colonial Populations," *Research in Economic History,* 5 (1980), pp. 179-231.

[17] J. A. Goldstone, "The Demographic Revolution in England: A Re-examination," *Population Studies,* 40 (Mar. 1986), pp. 5-33. Quotations are from pp. 24, 26.

[18] On the effect of protoindustry and poor relief on birth rates, see Levine, *Reproducing Families,* chaps. 2 and 3; George R. Boyer, "Malthus Was Right After All: Poor Relief and Birth Rates in Southeastern England," *Journal of Political Economy,* 97 (Feb. 1989), pp. 93-114; and Roger Schofield, "Family Structure, Demographic Behaviour, and Economic Growth," in John Walter and Roger Schofield, eds., *Famine, Disease and the Social Order in Early Modern Society* (Cambridge, 1989).

Allen's discussion of the effects of enclosures and large farms on migration also is questionable. He maintains that many of the laborers who were "shed" during the second wave of enclosures (1575 to 1674) migrated to London. However, outmigration declined sharply in the eighteenth century, so that by 1800 the south Midlands "was an insulated labour market… no longer linked by migration to the rest of the country" (p. 241). What caused the decline in outmigration? Allen argues that the landlords' revolution so diminished the income and wealth of the majority of the rural population that they were too poor to migrate. Apparently the laborers shed in the late eighteenth century were poorer than those shed between 1575 and 1674. This explanation surely is too simplistic. Much of the recent research on migration in developing economies indicates that population growth and the resulting increase in rural poverty have led to high rates of rural-urban migration.[19] Allen states that "the gains to migration were increasing" in the eighteenth century, which implies that rural-urban wage gaps were increasing. However, L. D. Schwarz has shown that real wages of unskilled laborers in London declined sharply in the second half of the eighteenth century.[20] Thus, the decline in migration from the south Midlands might have been caused by pull rather than push factors.

I am not disputing the fact that the south Midlands had a surplus labor problem in the early nineteenth century, nor that labor-shedding enclosures and farm amalgamations exacerbated the problem. Rather, I am disputing Allen's contentions that (1) rural unemployment and underemployment did not exist before the eighteenth century; and (2) enclosures and farm amalgamation were the major causes of the rise of surplus labor. Allen is too anxious to blame the enclosure movement for all of rural England's problems. The development of the surplus labor economy requires a more complex story.

One final question remains. To what extent do Allen's results for the south Midlands hold for the country as a whole? In particular, were enclosures labor shedding throughout England? To answer this question, we need to know whether the process of enclosure was similar across regions. Allen maintains that "enclosure reduced the employment of men insofar as it led to the conversion of arable to pasture; otherwise enclosure had no effect" (p. 162). Enclosure led to a large amount of labor shedding in the south Midlands because nearly 50 percent of the land enclosed was in the pasture district. Enclosures there led to a very significant shift in land use from arable to pasture, which reduced employment per acre by 17 to 33 percent. Available evidence suggests that in other regions enclosures did not result in significant reductions in acreage under crops. Data from the Board of Agriculture's 1808 *General Report on Enclosures* indicate that enclosures led to a sharp decline in wheat acreage in the south Midlands but in no other part of England.[21] Indeed, wheat acreage increased by 21, 58, and 77 percent in Lincoln, Yorkshire, and Norfolk as a result of enclosures, which suggests that in the east enclosures increased the demand for agricultural labor. Hugh Prince concludes that "for the country as a whole, setting off losses in some districts against gains in others, the total area under the plough increased progressively from the mid-eighteenth century to the middle of the nineteenth century."[22] The area under pasture also increased until about 1815. Both arable and pasture increased because the inflation that occurred during the French wars led to the enclosure and plowing up of

[19] See, for instance, Allen C. Kelley and Jeffrey G. Williamson, "Population Growth, Industrial Revolutions, and the Urban Transition," *Population and Development Review*, 10 (Sept. 1984), pp. 419-41.

[20] L. D. Schwarz, "The Standard of Living in the Long Run: London, 1700-1860," *Economic History Review*, 2nd ser., 38 (Feb. 1985), pp. 24-41.

[21] The data are discussed in Yelling, *Common Field and Enclosure*, pp. 194-97.

[22] Hugh C. Prince, "The Changing Rural Landscape, 1750-1850," in G. E. Mingay, ed., *The Agrarian History of England and Wales: Vol. 6, 1750-1850* (Cambridge, 1989), p. 33.

commons and wastes. Allen does not discuss the role of enclosures in increasing the acreage of improved farmland, because little waste was enclosed in the south Midlands. However, enclosures of wastes were important in the east, southwest, and north.[23] Such enclosures clearly were labor using, because they increased the amount of land under cultivation. The overall increase in arable land from about 1760 to 1815 must have led to an increase in the demand for agricultural labor. Because enclosures played an important role in both the increase in grain acreage in the east and the reclamation of wastes, it would appear that Allen's conclusion that enclosures were labor shedding is not true for England as a whole.

The issues that I have raised in this review should not be misinterpreted. *Enclosure and the Yeoman* is a major achievement, certainly one of the most important books in British economic history written in the past decade. Criticizing the book is a bit like criticizing Reggie Jackson for striking out too much. Home run hitters overs wing; if they shortened their swing, their run production would decline. Allen strikes out now and then, but he hits more than his share of home runs.

Let me summarize the book's most significant accomplishments. Allen has convincingly shown that enclosures were not the major cause of the agricultural revolution. He is not the first historian to reach this conclusion, but no previous historian offered the amount of evidence Allen does to support the argument. His decision to divide the south Midlands into natural districts and examine the effects of enclosure in each district is a major advance over previous studies that examined enclosures at the county or regional level. His detailed analysis of output on open and enclosed farms has shown that enclosures reduced farm revenue in the light arable and pasture districts, and therefore that the main motive for enclosure was not greater output. He has knocked gaping holes in J. D. Chambers's hypothesis that the adoption of "improved agriculture" greatly increased farm employment.[24] He has demolished Arthur Young's argument that large farms used more capital-intensive methods and employed more labor per acre than small farms. He has called into question the long-held belief that enclosures had a significant positive effect on industrialization and economic growth.

In sum, Allen has breathed new life into an old debate. He cleverly has combined contemporary data with sophisticated economics to discredit many of the traditional views about enclosure. The book undoubtedly will lead to several responses by the so-called Agrarian Fundamentalists, and some of Allen's conclusions might be found to be incorrect. But many will stand up. Whatever the outcome, Allen has raised the level of the debate. *Enclosure and the Yeoman* is a masterpiece of economic history.

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[23] Michael Turner, *Enclosures in Britain 1750-1830* (London, 1984), pp. 21-23.

[24] J. D. Chambers, "Enclosure and Labour Supply in the Industrial Revolution," *Economic History Review*, 2nd ser., 5 (No. 3, 1953), pp. 319-43. Holes had already been knocked in Chambers's argument by N. F. R. Crafts, "Enclosure and Labor Supply Revisited," *Explorations in Economic History*, 15 (Apr. 1978), pp. 172-183; and by K. D. M. Snell, *Annals of the Labouring Poor* (Cambridge, 1985), chap. 4.